Types of Diabetes Mellitus	Definitions for Diabetes Mellitus Types	Regimen of Therapy for Management
Type I diabetes or Insulin Dependent Diabetes Mellitus (IDDM)	 Type I diabetes is managed by: diabetes education. a balanced diet and exercise. testing blood glucose frequently. daily insulin injections. Most people with Type I diabetes usually acquire it before age 40. The mismanagement and/or duration of Type I diabetes increases transitory (acute) and long term (chronic) complications. Hyperglycemic and/or hypoglycemic reactions may occur in spite of conscientious efforts to manage control by the person and their health care team. 	People with Type I diabetes will <u>always</u> require insulin injections for treatment to regulate their blood glucose.
Type II diabetes or Non-Insulin Dependent Diabetes Mellitus (NIDDM)	 People with Type II diabetes are likely to be older and overweight. Generally, people with Type II diabetes are <u>not</u> dependent on insulin therapy. They may even have normal or elevated concentrations of insulin in their blood. People with Type II diabetes may be undiagnosed or asymptomatic for years, while slowly developing complications. 	Treatment for managing a person's Type II diabetes includes: - diabetes education. - a balanced diet and exercise. - testing blood glucose. - either oral hypoglycemic agent tablets or, on occasion, insulin injections as determined by his or her health care team.
<u>Gestational Diabetes Mellitus</u> (GDM)	 Gestational diabetes develops in some pregnant women during the second trimester. Once the pregnancy is over, the gestational diabetes goes away. A significant number of these women will eventually develop Type II diabetes later in life. 	Treatment for managing GDM is either a prescribed diet or insulin injections determined by the health care team.

VISUAL CHANGES*

RANGE OF SEVERITY AND POSSIBLE COMPLICATIONS	FUNCTIONAL DRIVING IMPAIRMENTS	OTHER FACTORS CONTRIBUTING TO UNSAFE DRIVING	DRIVER LICENSING OPTIONS FOR VISUAL COMPLICATIONS
 MILD Premature cataracts. Glaucoma. Diabetic retinopathy earliest stage (nonproliferative or sometimes referred to as "background"): - diabetic macular edema. MODERATE Cataracts. Glaucoma. Diabetic retinopathy (nonproliferative or proliferative): - diabetic macular edema 	MILD • None. MODERATE Reference Vision Guidelines.	Change in daily routine (work or sleep). Unplanned exercise. Inadequate health care. Noncompliance with medical regimen of therapy. Lack of diabetes education. Alcohol use or abuse. Poor diet and nutrition. Interfering effects of multi-medications. Driving record.	MILD Reference Vision Guidelines. MODERATE Reference Vision Guidelines.
SEVERE Cataracts. Glaucoma. Diabetic retinopathy (proliferative): diabetic macular edema. Retinal detachment. Blindness.	SEVERE Reference Vision Guidelines.		SEVERE Reference Vision Guidelines.

Advice:

Consider the person's entire diabetes condition.

Licensing decisions should be based on the medical condition(s) having the greatest effect on a person's ability to drive safely.

^{*} Reference Vision Guidelines when visual acuity is questionable. A Report of Vision Examination (DL-62) is required before rendering any decision.

KIDNEY CHANGES

DANGE OF GENERATE AND DOGGEN E	ELINGTIONAL PRIMING	KIDNET CHANGES	DRIVED I IODIONO OPTIONO FOR
RANGE OF SEVERITY AND POSSIBLE	FUNCTIONAL DRIVING	OTHER FACTORS	DRIVER LICENSING OPTIONS FOR
COMPLICATIONS	IMPAIRMENTS	CONTRIBUTING TO	KIDNEY COMPLICATIONS
		UNSAFE DRIVING	
MILD	MILD		MILD
Diabetic Nephropathy Earliest Stage:	• None.	Change in daily routine	" <u>No Action</u> "
Hypertension (blood pressure greater than		(work or sleep).	If severity of kidney complication is long standing <u>and</u> a review of the
160/95 mm Hg) due to increased peripheral		Unplanned exercise.	driving record determines continued ability to demonstrate
resistance.		Inadequate health care.	compensation, and no other disqualifying complications.
• Persistent presence of protein in the urine		Noncompliance with medical	
(albuminuria) greater than 30mg but less than		regimen of therapy.	
300mg/100ml. Not a candidate for hemodialysis or peritoneal		Lack of diabetes education. Alcohol use or abuse.	
dialysis since kidney function is more than		Poor diet and nutrition.	
5%.		Interfering effects of multi-	
370.		medications.	MODERATE
MODERATE	MODERATE	Driving record.	Since the rate of progression is highly variable for a person with renal
Diabetic Nephropathy Clinical:	Cognitive:	Illness and infections.	disease a special driving test is required when ability to drive safely is
Abnormal kidney function.	• Inability to concentrate.		affected by:
Persistent urinary albuminuria greater than			Physical weakness or frailty decreasing stamina to drive.
300 mg/100ml.	Loss of Muscular Control or		Muscular incoordination affecting range of motion.
 Persistent hypertension. 	Coordination:		 Cognitive deficits causing poor safety awareness.
Fluid retention causing swelling (edema) in	• Fatigue.		
the feet, legs, abdomen, and face.	Dizziness.		" <u>No Action</u> "
Potential candidate for hemodialysis or			If severity of kidney complication is long standing <u>and</u> a review of the
peritoneal dialysis; 95% or less of kidney	Musculoskeletal:		driving record determines continued ability to demonstrate
function has been lost.	Physical weakness.		compensation, and no other disqualifying complications.
History of cardiovascular disease.	• Decreased lower extremity		
History of stroke. Loss of muscular control.	functional and muscular coordination deteriorating the		" <u>Medical Probation II</u> "
Loss of muscular control.	range of motion for lower back,		If kidney condition is not stabilized within the previous three months
	torso, legs, and feet.		because of:
	• Numbness in arms and legs		• The severity of complication has recently been determined.
	decreasing range of motion and		Regimen of therapy has recently changed.Human error in medication and management.
	endurance with less ability to steer		Other temporary precipitating factors contributing to unsafe driving.
	smoothly.		Other temporary precipitating factors contributing to unsafe driving.
	 Burning sensation in the feet 		"Restriction"
	affecting smooth operation of		Application of restrictions is guided by:
	accelerator, brake, or clutch		• A review of the driving record to determine a continued ability to
	pedals.		demonstrate compensation.
			• The results of a vision screening.
			• Special drive test.
			Any other traffic safety risks.
			<u>NOTE</u> : for example consider driving restrictions such as neighborhood,
			time of day, no freeway driving, automatic transmission, sunrise to
			sunset, to and from designated destinations, additional or special
			equipment to increase driving proficiency.
	1	I .	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1

KIDNEY CHANGES (continued)

RANGE OF SEVERITY AND POSSIBLE COMPLICATIONS FUNCTIONAL DRIVING IMPAIRMENTS STREE Cognitive: * Change in daily routine (work or sleep). Other special driving test (SDT) is required when ability to drive sa above 2.0mg/dl. Other special debilitating kidney failure symptoms. Other special debilitating kidney failure symptoms. Other special driving test (SDT) is required to determine continued ability to diversible to determine continued ability to diversible to diversible the distance of the driving record to determine continued ability to diversible the diving record to determine continued ability to diversible the diving record to determine continued ability to diversible the diving record to determine continued ability to diversible the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving record to determine continued ability to drive sa the diving test (SDT) is required when ability to drive sa the diving test (SDT) is required when ability to drive sa the div	ith renal disease, a
SEVERE Diabetic Nephropathy Latest Stage: • Serum creatinine greater than 133 μmol/L or above 2.0mg/dl. • Protein levels greater than 0.3g/L • Blood Urea Nitrogen (BUN) greater than 6.5mmol/L. • Physical debilitating kidney failure symptoms. • Diabetic Nephropathy Latest Stage: Cognitive:* • Change in daily routine (work or sleep). • Change in daily routine (work or sleep). • Unplanned exercise. • Unplanned exercise. • Physical weakness or frailty decreasing stamina to drive. • Noncompliance with medical regimen of therapy. • Lack of diabetes education. • Nausea. • Alcohol use or abuse. • Application of restrictions is guided by:	
SEVERE Diabetic Nephropathy Latest Stage: Serum creatinine greater than 133 μmol/L or above 2.0mg/dl. Protein levels greater than 0.3g/L Blood Urea Nitrogen (BUN) greater than 6.5mmol/L. Physical debilitating kidney failure symptoms. SEVERE Cognitive:* Cognitive:* Cognitive:* Memory loss. Lethargic after dialysis. Loss of Muscular Control or Coordination:* Difficulty concentrating. Memory loss. Lethargic after dialysis. Loss of Muscular Control or Coordination:* Dizziness. Nausea. Change in daily routine (work or sleep). Unplanned exercise. Inadequate health care. Noncompliance with medical regimen of therapy. Lack of diabetes education. Alcohol use or abuse. SEVERE Since the rate of progression is highly variable for a person we special driving test (SDT) is required when ability to drive sate (SDT) is required when ability to drive sa	
Diabetic Nephropathy Latest Stage: Serum creatinine greater than 133 µmol/L or above 2.0mg/dl. Protein levels greater than 0.3g/L Blood Urea Nitrogen (BUN) greater than 6.5mmol/L. Physical debilitating kidney failure symptoms. Cognitive:* Difficulty concentrating. Memory loss. Lethargic after dialysis. Lethargic after dialysis. Loss of Muscular Control or Coordination:* Diabetic Nephropathy Latest Stage: Change in daily routine (work or sleep). Unplanned exercise. Inadequate health care. Noncompliance with medical regimen of therapy. Lack of diabetes education. Alcohol use or abuse. Since the rate of progression is highly variable for a person we special driving test (SDT) is required when ability to drive sate (work or sleep). Physical weakness or frailty decreasing stamina to drive. Muscular incoordination affecting range of motion. Cognitive deficits causing poor safety awareness. Lack of diabetes education. Alcohol use or abuse. Application of restrictions is guided by:	
 Serum creatinine greater than 133 μmol/L or above 2.0mg/dl. Protein levels greater than 0.3g/L Blood Urea Nitrogen (BUN) greater than 6.5mmol/L. Physical debilitating kidney failure symptoms. Serum creatinine greater than 133 μmol/L or above 2.0mg/dl. Memory loss. Lethargic after dialysis. Loss of Muscular Control or Coordination:* Nausea. Nausea. Special driving test (SDT) is required when ability to drive sage of prailty decreasing stamina to drive. Muscular incoordination affecting range of motion. Cognitive deficits causing poor safety awareness. "Restriction" Application of restrictions is guided by: 	
above 2.0mg/dl. Protein levels greater than 0.3g/L Blood Urea Nitrogen (BUN) greater than 6.5mmol/L. Physical debilitating kidney failure symptoms. Memory loss. Lethargic after dialysis. Unplanned exercise. Inadequate health care. Noncompliance with medical regimen of therapy. Loss of Muscular Control or Coordination: Dizziness. Nausea. Physical weakness or frailty decreasing stamina to drive. Muscular incoordination affecting range of motion. Cognitive deficits causing poor safety awareness. Restriction Restriction Application of restrictions is guided by:	iely is affected by.
 Protein levels greater than 0.3g/L Blood Urea Nitrogen (BUN) greater than 6.5mmol/L. Physical debilitating kidney failure symptoms. Lethargic after dialysis. Inadequate health care. Noncompliance with medical regimen of therapy. Loss of Muscular Control or Coordination:* Dizziness. Nausea. Inadequate health care. Noncompliance with medical regimen of therapy. Lack of diabetes education. Alcohol use or abuse. Muscular incoordination affecting range of motion. Cognitive deficits causing poor safety awareness. "Restriction" Application of restrictions is guided by:	
 Blood Urea Nitrogen (BUN) greater than 6.5mmol/L. Physical debilitating kidney failure symptoms. Nausea. Noncompliance with medical regimen of therapy. Loss of Muscular Control or Coordination:* Dizziness. Nausea. Noncompliance with medical regimen of therapy. Lack of diabetes education. Alcohol use or abuse. Restriction "Application of restrictions is guided by: 	
6.5mmol/L. • Physical debilitating kidney failure symptoms. • Dizziness. • Nausea. Loss of Muscular Control or Coordination:* • Dizziness. • Dizziness. • Nausea. Lack of diabetes education. • Alcohol use or abuse. Herapy. • Lack of diabetes education. * Restriction* Application of restrictions is guided by:	
 Physical debilitating kidney failure symptoms. Dizziness. Nausea. Lack of diabetes education. Alcohol use or abuse. "Restriction" Application of restrictions is guided by: 	
symptoms. • Nausea. • Alcohol use or abuse. Application of restrictions is guided by:	
	y to demonstrate
peripheral resistance. failure is untreated. Interfering effects of multi-medications. compensation.	
End stage renal failure requiring dialysis • Temporary muscular weakness and fatigue • Driving record. • The results of a vision screening.	
therapy or organ transplantation for survival. before and after dialysis. • Special drive test.	
Any other traffic safety risks.	
• Fluid retention causing swelling (edema) in Musculoskeletal:	
the feet, legs, abdomen, and face. • Physical weakness. • Kidney failure. • Shortness of breath.	
neighborhood, time of day, no freeway arriving, automatic tra	
1 DYDY 1 1 C 1 -f 1 -f 1 -f 1 -f 1 -f 1	special equipment
muscular control and coordination. to increase driving proficiency. to increase driving proficiency.	
II' C 1 1' C myyaylar accordination affecting range of	
 History of vascular complications. Loss of muscular control or coordination. Motion. Calendar Reexamination with Special Driving Test " A calendar reexamination with a SDT should be scheduled w 	hami
• Cognitive deficits. • Pain in chest while sitting. • Persons with end stage renal disease are just starting a dialy	
• Seizure or convulsions. • Numbness in arms and legs decreasing therapy since symptoms of renal failure can be nonspecific	
range of motion and endurance with less Post-operative organ transplant recovery	
ability to steer smoothly.	
Burning sensation in the feet affecting "Medical Probation II"	
smooth operation of accelerator, brake, or alwesh models. If kidney complication is stabilized for at least for at 3 months.	s on dialysis.
clutch pedals. Clutch pedals. Medical reports from driver's physician are needed for recent	
of therapy for end stage renal disease. Driver should be close	
medical probation for debilitating kidney failure conditions o	
that may contribute to unsafe driving, since symptoms of dia	petic nephropathy
complications can be nonspecific.	
"Suspension"	
Severity of kidney complication affects the driver's ability to	safely onerate a
motor vehicle a suspension may be reasonable if:	sarciy operate a
• Complication is not stabilized due to precipitating factors.	
• Does not comply with care, medication, or dialysis regimen	
Regimen of therapy has recently changed.	
• Driver is a candidate for an organ transplantation.	
" <u>Revocation</u> "	
If kidney complication is not likely to ever be brought under	control a
revocation may be reasonable if:	
• Functional impairments affect safe driving due to renal or li	ver insufficiency
causing loss of muscular control or seizures. • Driver fails to demonstrate compensation for the adverse af	ects of and stags
renal failure functional impairments.	ects of end stage
Advice: *Reference the Lapse of Consciousness (Metabolic Chart), and Dementia (Multi-infarct or Metabolic/Systemic Chart) Guidelines for additional licensing options.	

VASCULAR CHANGES

RANGE OF SEVERITY AND	FUNCTIONAL DRIVING	OTHER FACTORS	DRIVER LICENSING OPTIONS FOR
POSSIBLE COMPLICATIONS	IMPAIRMENTS	CONTRIBUTING TO	VASCULAR COMPLICATIONS
POSSIBLE COMPLICATIONS	IMPAIRMENTS	UNSAFE DRIVING	VASCULAR COMPLICATIONS
		UNSAFE DRIVING	
MILD	MILD	a i i i i	MILD
Atherosclerosis:	• None.	Change in daily routine	"No Action"
Hypertension due to increased peripheral		(work or sleep).	If severity of vascular complication is long standing <u>and</u> a review of
resistance.		Unplanned exercise.	the driving record determines continued ability to demonstrate
• Cardiovascular disease.		Inadequate health care.	compensation, and no other disqualifying complications.
Cerebrovascular disease.		Noncompliance with	
Peripheral artery disease.		medical regimen of therapy.	MODERATE
MODERATE	I CODED A TEL	Lack of diabetes education.	MODERATE
MODERATE	MODERATE	· Alcohol use or abuse.	Since the rate of progression is highly variable for a person with
Atherosclerosis:	Cognitive:	Poor diet and nutrition.	vascular disease, a special driving test (SDT) is required when ability
Hypertension due to increased peripheral	• Lack of concentration and judgment	Interfering effects of multi-	to drive safely is affected by:
resistance.	to react appropriately in different	medications.	• Physical weakness or frailty decreasing stamina to drive.
• Peripheral artery disease.	driving situations.	Driving record.	Muscular incoordination affecting range of motion.
Cerebral vascular disease.Coronary vascular disease.	Musculoskeletal:		Cognitive deficits causing poor safety awareness.
	• Lack of upper body strength and		(D)
• Chronic stable angina or chest pain.			" <u>Restriction</u> "
• Intermittent claudication (leg cramps) lower leg pain induced with moderate	dexterity to properly maintain physical control over vehicle.		Application of restrictions is guided by:
exercise.	• Chest pain while sitting.		• A review of the driving record to determine continued ability to
• Visual changes.	• Physical frailty.		demonstrate compensation.
• Cognitive deficits.	• Erratic operation of accelerator,		• The results of a vision screening.
Cognitive deficits.	brake, or clutch pedals affecting		• Special drive test.
	ability to control speed or		Any other traffic safety risks.
	deceleration especially in congested		NOTE (
	traffic situations or challenging		NOTE: for example consider driving restrictions such as
	geographical locations.		neighborhood, time of day, no freeway driving, automatic
	• Lack of lower body strength and		transmission, sunrise to sunset, to and from designated destinations,
	dexterity to properly move or adjust		additional or special equipment to increase driving proficiency.
	foot to/from accelerator, brake, or		
	clutch pedals.		" <u>Medical Probation II</u> "
	• Persistent pain affecting		If vascular condition is not stabilized within the previous three months
	concentration and judgment.		because of:
	concentration and judgment.		• The severity of complication has recently been determined.
	Visual Changes:		 Regimen of therapy has recently changed.
	• Visual and depth perception deficits.		Human error in medication and management.
	visual and depth perception deficits.		• Other temporary precipitating factors contributing to unsafe driving.
			"Suspension"
			A suspension may be reasonable if:
			Complication is not stabilized due to precipitating factors
			contributing to unsafe driving.
			• Driver does not demonstrate compensation on a SDT for the adverse
			affects of functional impairments.
			• Does not comply with care or medication regimen.
			Regimen of therapy has recently changed.

VASCULAR CHANGES (continued)*

RANGE OF SEVERITY AND	FUNCTIONAL DRIVING	OTHER FACTORS	DRIVER LICENSING OPTIONS FOR
POSSIBLE COMPLICATIONS	IMPAIRMENTS	CONTRIBUTING TO	VASCULAR COMPLICATIONS
I OSSIBLE COMFLICATIONS	IIVIF AIRIVIEN 15	UNSAFE DRIVING	VASCULAR COMITLICATIONS
	lanzina n	UNSAFE DRIVING	COVERN
SEVERE	SEVERE	Chi 4-:1ti	SEVERE
Atherosclerosis:	Cognitive:*	• Change in daily routine	Since the rate of progression is highly variable for a person with vascular disease,
Hypertension due to increased peripheral resistance.	Lack of concentration and impaired judgment to react appropriately in different	(work or sleep). • Unplanned exercise.	a <u>special driving test (SDT) is required</u> when ability to drive safely is affected by: • Physical weakness or frailty decreasing stamina to drive.
Peripheral artery (vascular) disease.	driving situations.	Inadequate health care.	Muscular incoordination affecting range of motion.
Claudication (leg cramping) lower leg pain with	• Decreased cognitive functions.	Noncompliance with	Cognitive deficits causing poor safety awareness.
minimal exercise.	Decreased cognitive functions.	medical regimen of therapy.	Cognitive deficits eausing poor surery awareness.
Visual changes.*	Loss of Consciousness or Loss of	Lack of diabetes education.	"Restriction"
• Significant ischemia.	Muscular Control:*	 Alcohol use or abuse. 	Application of restrictions is guided by:
· Cardiovascular disease.	 Loss of muscular control and coordination; 	• Illness or infections.	• A review of the driving record to determine continued ability to demonstrate
• Angina.	may be unable to maintain physical control	 Poor diet and nutrition. 	compensation.
Transient Ischemic Attack (TIA).	of vehicle.	 Interfering effects of multi- 	• The results of a vision screening.
Carotid bruit.	 Loss of awareness of environment. 	medications.	• Special drive test.
Cerebrovascular disease possibly causing brain		Driving record.	Any other traffic safety risks.
damage.*	Musculoskeletal:		
Stroke.*	Lack of upper body strength and dexterity		<u>NOTE</u> : for example consider driving restrictions such as neighborhood, time of
Lower extremity amputation. Foot lesions (ulcer) infection or gangrene.	to properly maintain physical control over vehicle.		day, speed, no freeway driving, automatic transmission, sunrise to sunset, to and
Vascular dementia.*	• Chest pain affecting steering action.		from designated destinations, special equipment such as artificial leg, hand
Cognitive deficits.*	Physical frailty or weakness.		controls, and supportive devices to increase driving proficiency.
Loss of control or loss of muscular control.	• Erratic operation of accelerator, brake, or		
• Sudden death.	clutch pedals causing inability to control		"Calendar Reexamination with Special Drive Test"
	speed or deceleration in different traffic		A calendar reexamination with a SDT should be scheduled when:
	situations and geographical locations.		• Persons with vascular disease are just starting a regimen of therapy.
	Unable to properly move or adjust foot		• Debilitating medical conditions or other illnesses resulting from other factors contributing to unsafe driving, since symptoms of vascular complications can be
	from accelerator, brake, or clutch pedals.		nonspecific.
	• Loss of leg or foot resulting in possible use		nonspectific.
	of hand controls.		"Medical Probation II"
	T. 1.01 *		If vascular condition is not stabilized within the previous three months because
	Visual Changes:* • Visual and depth perception deficits.		of:
	Visual and depth perception deficits. Loss of complex visual acuity.		• The severity of complication has recently been determined.
	Cortical blindness.		• Regimen of therapy has recently changed.
	Other visuospatial difficulties.		Human error in medication and management.
	Other visuospatiar arriculties.		 Other temporary precipitating factors contributing to unsafe driving.
			" <u>Suspension</u> "
			Severity of complication affects the driver's ability to safely operate a motor
			vehicle a suspension may be reasonable if:
			• Complication is not stabilized due to precipitating factors.
			Driver fails to demonstrate compensation for the adverse affects of vascular complication functional impairments.
			complication functional impairments. Does not comply with care, medication, or dialysis regimen.
			Regimen of therapy has recently changed.
			regimen of incrupy has recently changed.
			"Revocation"
			If vascular complication is not likely to ever be brought under control a
			revocation may be reasonable if:
			• Functional impairments affect safe driving due to severity of complication.
Advice:			

*Reference: Vision, Lapses of Consciousness, or Dementia (Multi-infarct vascular dementia, or Metabolic/Systemic Chart) Guidelines.

PERIPHERAL NERVOUS SYSTEM CHANGES

RANGE OF SEVERITY AND POSSIBLE	FUNCTIONAL DRIVING	OTHER FACTORS	DRIVER LICENSING OPTIONS FOR
COMPLICATIONS	IMPAIRMENTS	CONTRIBUTING TO UNSAFE	NERVOUS SYSTEM COMPLICATIONS
		DRIVING	

MILD

<u>Diabetic Neuropathy</u> (peripheral nervous system diseases):

- motor nerves (muscular weakness).
- sensory nerves (loss of feeling).
- autonomic nerves (loss of bodily functions that are not normally under consciousness control, such as):
 -gastrointestinal (digestive tract).
- -cardiovascular system (abnormal heart beat, blood pressure, sweating).
- -genitourinary system (genital organs).

MODERATE

<u>Diabetic Neuropathy</u> (peripheral nervous system diseases):

- motor nerves (muscular weakness):
- Diabetic amyotrophy.
- Thoracic radiculopathy.
- Unilateral foot drop.
- sensory nerves (loss of feeling or sensation).
- Carpal Tunnel Syndrome.
- autonomic nerves (loss of bodily functions that are not normally under consciousness control, such as):
 -gastrointestinal (digestive tract).
- -cardiovascular system (abnormal heart beat, blood pressure, sweating).
- Tachycardia.
- Hypotension.
- genitourinary system (genital organs).

MILD

None

MODERATE

Motor Nerves:

- Insufficient hand grip strength or range of motion to hold steering wheel steady during complex turning movements.
- Insufficient leg strength causing inability to operate or smoothly apply accelerator, brakes, or clutch pedals.
- Chest or abdominal weakness affecting range of motion while driving.

 Land Hilliant 116 for the second second
- Inability to lift foot up.

Sensory Nerves:

- Loss of sensation (decreased sense for pain and numbness) in legs, feet, toes or hands affecting steering capability and smooth operation of gas, brake, or clutch pedals.
- Distracting topical burning, or shooting pain feeling like ice picks or needles affecting concentration.
- Facial pain leading to transitory paralysis of eye muscles causing double vision.

Autonomic Nerves:

- Shortness of breath.
- Dizziness from hypotension.
- Difficulty coordinating insulin with food intake causing blood glucose fluctuations causing hypoglycemic reactions.

- Change in daily routine (work or sleep schedule).
- Unplanned exercise.
- Inadequate health care.
- Noncompliance with medical regimen of therapy.
- Lack of diabetes education.
- Alcohol use or abuse.
- Poor diet and nutrition.
- Interfering effects of multi-medications.
- Driving record.

MILD

"No Action"

If severity of complication is long standing <u>and</u> a review of the driving ecord determines continued ability to demonstrate compensation.

MODERATE

Since the rate of progression is highly variable for a person with nervous system disease, a <u>special driving test (SDT) is required</u> when ability to drive safely is affected by:

- Physical weakness or frailty decreasing stamina to drive.
- Muscular incoordination affecting range of motion.

Restriction"

Application of restrictions is guided by:

- A review of the driving record to determine continued ability to demonstrate compensation.
- The results of a vision screening.
- Special drive test.
- Traffic safety risks.

NOTE: for example consider driving restrictions such as neighborhood, time of day, speed, no freeway driving, automatic transmission, sunrise to sunset, to and from designated destinations, special equipment such as artificial leg, hand controls, and supportive devices to increase driving proficiency.

"Calendar Reexamination with Special Drive Test"

A calendar reexamination with a SDT should be scheduled when:

- Persons with nervous system complications are just starting a regimen of therapy.
- Muscular weakness or loss of feeling is determined.
- Debilitating medical conditions or other illnesses resulting from other factors contributing to unsafe driving, since symptoms can be nonspecific.

"Medical Probation II"

If nervous system disease is not stabilized within the previous three months because of:

- The severity of complication has recently been determined.
- Regimen of therapy has recently changed.
- Human error in medication and management.
- Other temporary precipitating factors contributing to unsafe driving.

"Suspension"

Severity of complication affects the driver's ability to safely operate a motor vehicle a suspension may be reasonable if:

- Complications not stabilized due to precipitating factors.
- Driver fails to demonstrate compensation for the adverse affects of nervous system disease complication functional impairments.
- Does not comply with care or medication regimen.
- Regimen of therapy has recently changed.

PERIPHERAL NERVOUS SYSTEM CHANGES (continued)

RANGE OF SEVERITY AND POSSIBLE	FUNCTIONAL DRIVING	OTHER FACTORS	DRIVER LICENSING OPTIONS FOR
COMPLICATIONS	IMPAIRMENTS	CONTRIBUTING TO	NERVOUS SYSTEM COMPLICATIONS
COMILICATIONS	IVII AIRWENIS	UNSAFE DRIVING	NERVOUS SISTEM COMILICATIONS
SEVERE	SEVERE	CHOATE DAIVING	CEVEDE
<u>Diabetic Neuropathy</u> : (peripheral nervous	Motor Nerves:	Change in daily routine	SEVERE Special Drive Test Is Required For Any Severe
system diseases).	• Insufficient hand grip strength or	(work or sleep schedule).	Peripheral Nervous System Change.
• motor nerves (muscular weakness):	range of motion to hold steering	• Unplanned exercise.	<u>1 eripherai Nervous System Change.</u>
- Diabetic amyotrophy.	wheel steady during complex turning		Restriction"
- Thoracic radiculopathy.	movements.	Noncompliance with medical regimen	Application of restrictions is guided by:
- Unilateral foot drop.	• Insufficient leg strength causing	of therapy.	• A review of the driving record to determine continued ability to
• sensory nerves (loss of feeling or sensation).	inability to operate or smoothly apply	Lack of diabetes education.	demonstrate compensation.
- Carpal Tunnel Syndrome.	accelerator, brakes, or clutch pedals.	Alcohol use or abuse.	• The results of a vision screening.
• autonomic nerves (loss of bodily functions that	• Chest or abdominal weakness	Poor diet and nutrition.	• Special drive test.
are not normally under consciousness control,	affecting range of motion while	Interfering effects of multi-	• Traffic safety risks.
such as):	driving.	medications.	
-gastrointestinal (digestive tract).	• Inability to lift foot up.	Driving record.	NOTE: for example consider driving restrictions such as
-cardiovascular system (abnormal heart beat,		"Tight control" of blood glucose	neighborhood, time of day, speed, no freeway driving, automatic
blood pressure, sweating).	Sensory Nerves:	levels.	transmission, sunrise to sunset, to and from designated
- Tachycardia.	 Loss of sensation (decreased sense 		destinations, special equipment such as artificial leg, hand
- Hypotension.	for pain and numbness) in legs, feet,		controls, and supportive devices to increase driving proficiency
-genitourinary system (genital organs).	toes or hands affecting steering		Francis, and suppression and the suppression a
	capability and smooth operation of		"Calendar Reexamination with Special Drive Test"
	gas, brake, or clutch pedals, also		A calendar reexamination with a SDT should be scheduled when:
	affecting where feet and hands are		Persons with nervous system complications are just starting a
	placed without looking at them		regimen of therapy.
	(proprioception).		Muscular weakness or loss of feeling is determined
	• Distracting topical burning, or shooting pain feeling like ice picks or		Debilitating medical conditions or other illnesses resulting from
	needles affecting concentration.		other factors contributing to unsafe driving, since symptoms can
	• Facial pain leading to acute paralysis		be nonspecific.
	of eye muscles causing double vision.		
	of eye museles eausing double vision.		" <u>Suspension</u> "
	Autonomic Nerves:		Severity of complication affects the driver's ability to safely
	• Shortness of breath.		operate a motor vehicle a suspension may be reasonable if:
	• Heart failure.		Complications not stabilized due to precipitating factors.
	• Dizziness from hypotension		Does not comply with care or medication regimen.
	• Difficulty coordinating insulin with		New regimen of therapy.
	food intake causing blood glucose		
	fluctuations causing hypoglycemic		" <u>Revocation</u> "
	reactions and brittleness.		If complication is not likely to ever be brought under control a
	 Possible inability to recognize 		revocation may be reasonable if:
	hypoglycemia warning signs or		• Functional impairments affect safe driving due to severity of
	symptoms.		complication.
			• Driver fails to demonstrate compensation for the adverse affects
			of vascular complication functional impairments.
		<u> </u>	

HYPOGLYCEMIA TRANSITORY REACTIONS

RANGE OF SEVERITY AND POSSIBLE COMPLICATIONS	FUNCTIONAL DRIVING IMPAIRMENTS	OTHER FACTORS CONTRIBUTING TO UNSAFE DRIVING	DRIVER LICENSING OPTIONS FOR HYPOGLYCEMIA COMPLICATIONS
MILD Rapid Onset - Requiring Self Treatment. Note: The driver may experience any of these transitory symptoms during an episode: Sweating. Shakiness or tremors. Visual changes. Rapid heartbeat. Hunger. Lightheadedness or faintness. Weakness or fatigue. Slower reaction times. Confusion. Irritability or grouchiness. Anxiety or nervousness.	MILD • None.	Change in daily routine (work or sleep). Too much unplanned exercise. Inadequate health care. Noncompliance with medical regimen of therapy. Lack of diabetes education. Alcohol use or abuse. Illness or infections. Poor diet and nutrition. Interfering effects of multimedications. Too little food or delayed meals. Too much insulin or oral diabetes medication. Driving record.	 MILD "No Action" If hypoglycemia is well managed and: A review of the driving record determines continued ability to demonstrate compensation. Able to anticipate and self manage an episode. Strict adherence with regimen of therapy. Absence of incapacitation or mental confusion due to insulin reaction. No loss consciousness, muscular control, or awareness of surroundings.
MODERATE Rapid Onset - May Require Assistance In Treatment. Note: The driver may experience any of these transitory symptoms during an episode: • Hunger. • Rapid heartbeat. • Personality changes. • Sweating. • Pallor. • Clammy skin. • Tremors.* • Cognitive deficits.	MODERATE Cognitive Changes During An Episode: Impaired judgment. Poor judgment and safety awareness. Reduced problem solving skills while driving in hazardous traffic situations. Decreased memory and orientation. Unawareness of disability to recognize warning symptoms of hypoglycemia. Slower responses. Visual Changes During An Episode: Blurriness. Dark spots. Double vision (Diplopia). Diminished ability to recognize color. Decreased depth or foreground perception.		 MODERATE "Medical Probation II" If within the previous three months hypoglycemia reactions have recently been determined because: Regimen of therapy has recently changed. Human error in medication or management. Other temporary precipitating factors that may contribute to unsafe driving. Note: Loss of muscular control and coordination must be minimal to the point that physical control of a motor vehicle can be maintained. "Suspension" Frequency and severity of hypoglycemia reactions affects the driver's ability to safely operate a motor vehicle a suspension may be reasonable if: Fails to demonstrate control for hypoglycemia reactions and is adversely affected by precipitating factors. Noncompliance with regimen of therapy. Medical condition may likely improve. "Revocation" If hypoglycemia is not likely to ever be brought under control a revocation is appropriate.

*Reference the Lapses of Consciousness (Metabolic Chart) Guidelines.

HYPOGLYCEMIA TRANSITORY REACTIONS (continued)

RANGE OF SEVERITY AND POSSIBLE COMPLICATIONS	FUNCTIONAL DRIVING IMPAIRMENTS	OTHER FACTORS CONTRIBUTING TO UNSAFE DRIVING	DRIVER LICENSING OPTIONS FOR HYPOGLYCEMIA COMPLICATIONS
SEVERE Rapid Onset - Usually Requiring Emergency Measures By Someone Else. Note: The driver may experience any of these transitory symptoms during an episode: Severe hypoglycemia reactions occur unpredictably without warning. Someone having an insulin reaction may appear: - angry combative stuporous unresponsive drunk and may experience difficulty walking correctly. Visual changes. Cognitive deficits. Altered mental state. Hypoglycemia unawareness. Syncope.* Lapses of consciousness or loss of muscular control.* Sudden death.	SEVERE CAN NOT DRIVE SAFELY. Lapses of Consciousness or Loss of Muscular Control During An Episode:* Reduced problem solving skills and poor judgment while driving. Slower responses. Loss of muscular control. Seizure or convulsions. Unawareness of disability to recognize warning symptoms of hypoglycemia. Visual Changes During An Episode:* Blurriness. Dark spots. During An Episode:* During Symptoms of hypoglycemia. Cognitive Changes During An Episode: Impaired judgment. Poor judgment and safety awareness. Reduced problem solving skills while driving in hazardous traffic situations. Decreased memory and orientation. Unawareness of disability to recognize warning symptoms of hypoglycemia. Slower responses.	Change in daily routine (work or sleep). Too much unplanned exercise. Inadequate health care. Noncompliance with medical regimen of therapy. Lack of diabetes education. Alcohol use or abuse. Illness or infections. Poor diet and nutrition. Interfering effects of multimedications. Too little food or delayed meals. Too much insulin or oral diabetes medication. Driving record.	SEVERE "Medical Probation II" If within the previous three months hypoglycemia reactions have recently been determined because: Regimen of therapy has recently changed. Human error in medication or management. Other temporary precipitating factors that may contribute to unsafe driving. Note: Loss of muscular control and coordination must be minimal to the point that physical control of a motor vehicle can be maintained. "Suspension" Frequency and severity of hypoglycemia reactions affects the driver's ability to safely operate a motor vehicle a suspension may be reasonable if: Fails to demonstrate control for hypoglycemia reactions and is adversely affected by precipitating factors. Noncompliance with regimen of therapy. Medical condition may likely improve. "Revocation" If hypoglycemia is not likely to ever be brought under control a revocation is appropriate.

Advice:

*Reference Lapses of Consciousness (Syncope and Metabolic Chart) Guidelines .

NOTE: Persons with diabetes should:

- (1) Check their own blood glucose levels for hypoglycemia symptoms before driving, and not drive if blood glucose is too low.

 (2) Keep a supply of sugar material (carbohydrate) available in the vehicle to treat hypoglycemia.
- (3) Know how to recognize their own hypoglycemia symptoms, and know when and how to treat it, especially when driving a motor vehicle.
- (4) Store insulin in an environmentally safe carrying case and location in vehicle, and carry personal medical identification.
- (5) Not drink alcoholic beverages since it has a blood glucose-lowering effect that can last for up to thirty-six hours after consumption.

HYPERGLYCEMIC TRANSITORY REACTIONS

RANGE OF SEVERITY AND	FUNCTIONAL DRIVING	OTHER FACTORS	DRIVER LICENSING OPTIONS FOR
POSSIBLE COMPLICATIONS	IMPAIRMENTS	CONTRIBUTING TO	HYPERGLYCEMIA COMPLICATIONS
		UNSAFE DRIVING	
MILD	MILD		MILD
Slow Onset-Requiring Self Treatment.		Change in daily routine	"No Action"
<u> </u>	None.	(work or sleep).	If hyperglycemia is well managed and:
Note: The driver may experience any of these		 Not enough planned exercise. 	• A review of the driving record determines continued ability to
transitory symptoms during an episode:		 Inadequate health care. 	demonstrate compensation.
• Increased thirst and urination.		Noncompliance with medical	• Able to anticipate and self manage an episode.
Weakness or fatigue.		regimen of therapy.	• Strict adherence with regimen of therapy.
• Lethargy.		 Lack of diabetes education. 	Absence of incapacitation or mental confusion due to insulin
• Dry mouth.		 Alcohol use or abuse. 	reaction.
Blurred vision.		 Illness or infections. 	 No loss consciousness, muscular control, or awareness of
Hunger.		 Poor diet and nutrition. 	surroundings.
Nausea.		 Interfering effects of multi- 	 Absence of incapacitation or mental confusion due to transitory
		medications.	diabetic acidosis.
MODERATE		 Too much food. 	
Slow Onset - May Require Assistance In	MODERATE	 Too little insulin or oral diabetes 	MODERATE
Treatment.	Cognitive Changes During An Episode:	medication.	"Medical Probation II"
	• Lethargy.	 Emotional stress. 	If within the previous three months:
Note: The driver may experience any of these	• Slow responses.	 Driving record. 	 Hyperglycemia reactions has recently been determined.
transitory symptoms during an episode:	 Disorientation. 		 Regimen of therapy has recently changed.
 Increased thirst and urination. 	• Stupor.		 Human error in medication and management.
 Abdominal pains and aches. 	• Inability to understand or recognize		• Other temporary precipitating factors that may contribute to unsafe
 Heavy or labored breathing. 	traffic safety errors.		driving.
 Loss of appetite. 	• Reduced problem solving ability.		
 Nausea and vomiting. 	• Decreased memory and orientation,		" <u>Suspension</u> "
• Fatigue.	awareness of disability, and sense of		Frequency and severity of hyperglycemia reactions affects the
• Lethargy.	movement.		driver's ability to safely operate a motor vehicle a suspension may be
• Weakness.	Presence of incapacitation or mental		reasonable if:
• Dry mouth.	confusion due to transitory diabetic		 Fails to demonstrate control for hyperglycemia reactions and is
Cognitive deficits.	acidosis.		adversely affected by precipitating factors that contribute to unsafe
• Visual changes.	M. I.I.I.I.D. 'A.F.' I		driving.
Diabetic acidosis.	Musculoskeletal During An Episode:		 Noncompliance with regimen of therapy.
	• Weakness.		 Medical condition may likely improve.
	• Lack of functional muscular		
	coordination and endurance needed to		" <u>Revocation</u> "
	maintain strength to drive safely.		If hyperglycemia is not likely to ever be brought under control a
	Abdominal pains and aches.		revocation is appropriate.
	Visual Changes During An Episode:		
	Blurred vision.		
	Reduced depth or foreground		
	perception.		
Advice:			

*Reference Lapses of Consciousness Guidelines.

HYPERGLYCEMIC TRANSITORY REACTIONS (continued)

RANGE OF SEVERITY AND	FUNCTIONAL DRIVING	OTHER FACTORS	DRIVER LICENSING OPTIONS FOR
POSSIBLE COMPLICATIONS	IMPAIRMENTS	CONTRIBUTING TO	HYPERGLYCEMIA COMPLICATIONS
1 0001222 00111 22011110110		UNSAFE DRIVING	
SEVERE	SEVERE	0.1010000000000000000000000000000000000	SEVERE
Slow Onset - Usually Requiring Emergency	Cognitive Changes During An Episode:*	Change in daily routine	"Medical Probation II"
Measures By Someone Else.	• Lethargy.	(work or sleep).	If within the previous three months:
measures by someone Lise.	• Slow or delayed responses.	• Not enough planned exercise.	Hyperglycemia reactions has recently been determined.
Note: The driver may experience any of these	• Disorientation.	• Inadequate health care.	• Regimen of therapy has recently changed.
transitory symptoms during an episode:	• Stupor.	Noncompliance with medical	• Human error in medication and management.
• Cognitive deficits.	Inability to understand or recognize	regimen of therapy.	Other temporary precipitating factors.
Diabetic ketoacidosis.*	traffic safety errors.	 Lack of diabetes education. 	
Nonketotic hyperosmolar coma (NKHC)	 Reduced problem solving ability. 	 Alcohol use or abuse. 	"Suspension"
syndrome.*	 Decreased memory and orientation, 	• Illness or infections.	Frequency and severity of hyperglycemia reactions affects the
Cerebral edema	awareness of disability, and sense of	 Poor diet and nutrition. 	driver's ability to safely operate a motor vehicle a suspension may be
 Lapses of Consciousness or Loss of 	movement.	Interfering effects of multi-	reasonable if:
Muscular Control.*	Mental confusion.	medications.	• Fails to demonstrate control for hyperglycemia reactions and is
		• Too much food.	adversely affected by precipitating factors.
* Diabetic ketoacidosis and NKHC develops	Lapses of Consciousness or Loss of	• Too little insulin or oral diabetes	Noncompliance with regimen o f therapy.
over several hours or days. Severe	Muscular Control During An Episode:*	medication.	
complications requiring hospitalization may	• Convulsions.	Emotional stress.	"Revocation"
cause voluntary driving cessation.	• Coma.	Driving record.	If hyperglycemia is not likely to ever be brought under control a
	Musaulaskalatal Durina An Enisada		revocation may be reasonable if:
	Musculoskeletal During An Episode: • Weakness.		• Any associated precipitating factor is likely to continue
	Lack of functional muscular		indefinitely, (such as infections, medication side effects, vascular events).
	coordination or endurance that is needed		events).
	to maintain strength to drive safely.		
	• Abdominal pains and aches affecting		
	range of motion.		
	Visual Changes:		
	Blurred vision.		
	Reduced depth or foreground		
	perception.		
Advice:			

*Reference Lapses of Consciousness Guidelines.